

REMARKS

Reconsideration and allowance of the present application are respectfully requested. Claims 1, 4-6, 8, 9, 16, 18, 19 and 21-25 and 27 remain pending in the application. By the foregoing amendment, claims 1, 5, 16 and 21 are amended.

The Rejection of Claims 1, 4-6, 8, 9, 16, 21-25 and 27 Under 35 U.S.C. §101

In numbered paragraph 1, page 2 of the final Office Action, claims 1, 4-6, 8, 9, 16, 21-25 and 27 were rejected under 35 U.S.C. §101, as being directed to non-statutory subject matter. Applicants have traversed of record the Examiner's rejection based at least on the holding in the State Street decision which supports the proposition that data values that represent a media signal constitute as much of a practical application as the dollar amounts that were addressed in the State Street decision. However, while Applicants respectfully disagree with the Examiner's ultimate conclusion, the relevant claims are further amended to obviate the Examiner's assertion.

Applicants respectfully submit that the claims do recite a statutory category of subject matter. As variously amended, each of the claims variously recite the reproduction of a media signal as the final output, and not just data values.

Specifically, claim 1 is further amended to recite "A method for processing a media signal to transform said media signal on a computer system,... outputting said transformed media signal to reproduce said transformed media signal as an output from the computer system, wherein said polynomials and intervals are determined such that the maximum error between said output values and said function is approximately equal for each of said intervals"; claim 5 is amended to recite " A method for generating a media output signal which is based on a power function

transformation of a media input signal on a vector processing computer system,...generating multiple output values corresponding to said input data values to form digital representations of said media output signal, wherein said polynomials and ranges are determined such that the maximum error between said output values and the power function is approximately equal for each of said ranges; and reproducing said media output signal from said output values as an output from the computer system"; claim 16 is amended to recite "A vector processing computer system to transform a media signal,...a vector processing engine that is responsive to receipt of multiple data input values and a command to apply the power function to those input data values, to determine the range in which each data input value is located, to retrieve the set of stored coefficients for each determined range and load them into register locations that respectively correspond to said data input values, to compute multiple output values from said data input values and the loaded coefficients, and to output said output values as a transformed media signal, wherein said polynomials and ranges are determined such that the maximum error between said output values and the power function is approximately equal for each of said ranges; and an output register from which said output values are retrieved to reproduce said transformed media signal for output from the computer system"; and claim 21 is amended to recite " A computer-readable medium for a computer system to transform a medial signal,...an application program that is responsive to receipt of multiple input data values that define a media signal to determine which one of said ranges encompasses each of said input data values, retrieve the set of coefficients that corresponds to each determined range, simultaneously evaluate the polynomials defined by each retrieved set of coefficients with the associated input data values to

generate multiple output values at the same time that define an output media signal as a transformed media signal, and reproduce said transformed media signal as an output from the computer system, wherein said polynomials and ranges are determined such that the maximum error between said output values and the power function is approximately equal for each of said ranges."

At least for the foregoing amendments and the supporting reasons, withdrawal of the rejection under 35 U.S.C. §101 is requested.

The Rejection of Claims 18 and 19 Under 35 U.S.C. §103

In numbered paragraph 2, page 3 of the final Office Action, claims 18 and 19 were rejected under 35 U.S.C. §103 as being unpatentable over U.S. Patent 6,360,023 (Betrisey et al.) in view of U.S. Patent 5,235,410 (Hurley). This rejection is respectfully traversed.

As shown in the graph of FIG. 3 Applicants have disclosed error forward approximation (e.g., specification at page 8). Applicants have further disclosed an exemplary function curve which is first fitted with one or more polynomials, and a determination is made to see how close the error is to a desired threshold. The order of the polynomial is then raised, and split over multiple ranges, until the error approaches the desired value (e.g., specification at page 8).

Applicants have disclosed that an exemplary constraint in multimedia applications relates to the function and its inverse over an interval of interest (e.g., page 6, lines 8-10). Applicants have disclosed a particular relevance for power functions, where small deviations over an input range can produce large deviations in the output results (e.g., page 6, lines 11-13). Consequently, the approximation of

a power function and its inverse must have an error that is below a prescribed value, in order to meet this constraint (e.g., page 6, lines 14 and 15).

In numbered paragraph 2, page 3 of the final Office Action, the Examiner admits that "[i]t is noted that Betrisey et al. does not disclose the generating a corrected display value by a second-order polynomial that approximates a power function corresponding to the gamma of a display device, and the converting the processing display value to said first color space by evaluating a polynomial that is the inverse of said second-order polynomial."

Bridging pages 3 and 4 of the final Office Action, the Examiner reaches his ultimate conclusion of obviousness, reasoning that "Hurley, in order to perform the gamma correction and its inverse in a simple and effective." Applicants respectfully disagree with the Examiner's ultimate conclusion.

Applicants reiterate that Hurley patent does not cure the deficiencies of the Betrisey et al. patent. As best understood from page 3 of the final Office Action, the Examiner appears to maintain his rejection based upon the disclosure in the Hurley patent of a color correction apparatus for a digital color video signal in which non-linear transformation, such as gamma correction, of the color component signals is mentioned (col. 3, lines 1-3). However, this disclosure is merely demonstrative of a non-linear transformation at best, such as gamma correction, based on a graph modeling of the desired non-linear operation by a quadratic approximation, as shown in Fig. 6. As relied upon by the Examiner, there is no mention in the Hurley patent of an inverse of a second-order polynomial that approximates a power function, i.e., the subject matter that was admitted to be absent from the Betrisey et al. patent. Nor is there any concept of Applicants' claimed evaluation of said inverse of said second-

order polynomial to yield an error that is below a prescribed threshold value, as encompassed by Applicants' claim 18.

The Hurley patent would not have taught or suggested converting a processed display value to a first color space by evaluating a polynomial that is the inverse of a second-order polynomial in accordance with said processed display value, wherein the second-order polynomial that approximates a power function and its inverse are such that said evaluating of a polynomial that is the inverse of said second-order polynomial yields an error that is below a prescribed threshold value, as Applicants have recited in claim 18.

At least for these reasons, the applied references, individually or in the combination as suggested by the Examiner, would not have taught or suggested the recited features of Applicants' claim 18. Claim 19 depends from claim 18.

Conclusion

For the foregoing reasons, Applicant's claims 1, 4-6, 8, 9, 16, 18, 19 and 21-25 and 27 are allowable. As such, the present application is in condition for allowance.

All objections and rejections raised in the Office Action having been addressed, it is respectfully submitted that the application is in condition for allowance and a Notice of Allowance is respectfully solicited.

Respectfully submitted,

BUCHANAN INGERSOLL & ROONEY PC

Date: October 9, 2008

By: /Richard J. Kim/
Richard J. Kim
Registration No. 48360

P.O. Box 1404
Alexandria, VA 22313-1404
703 836 6620